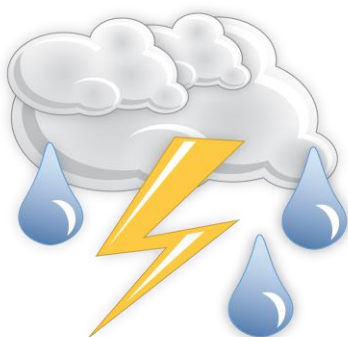


MIAMI-SOUTH FLORIDA
National Weather Service
Forecast Office
<http://www.weather.gov/miami>



2021 Severe Weather Awareness Week

**Monday, February 1st:
Lightning Awareness Day**



Lightning is often a common occurrence in the daily afternoon thunderstorms that rumble across South Florida during our rainy season. Even though lightning strikes may be a common occurrence, it is always important to remain weather aware and to practice proper safety precautions in the event of lightning in the area. Thankfully, Lightning fatalities and injuries have decreased significantly over the last several decades (**Figure 1**) largely in part to greater education and awareness of the danger that

lightning poses, as well as adequate safety measures that allow for ample warning time, such as lightning detection systems, which are now commonplace at many parks, beaches, and public facilities across South Florida.

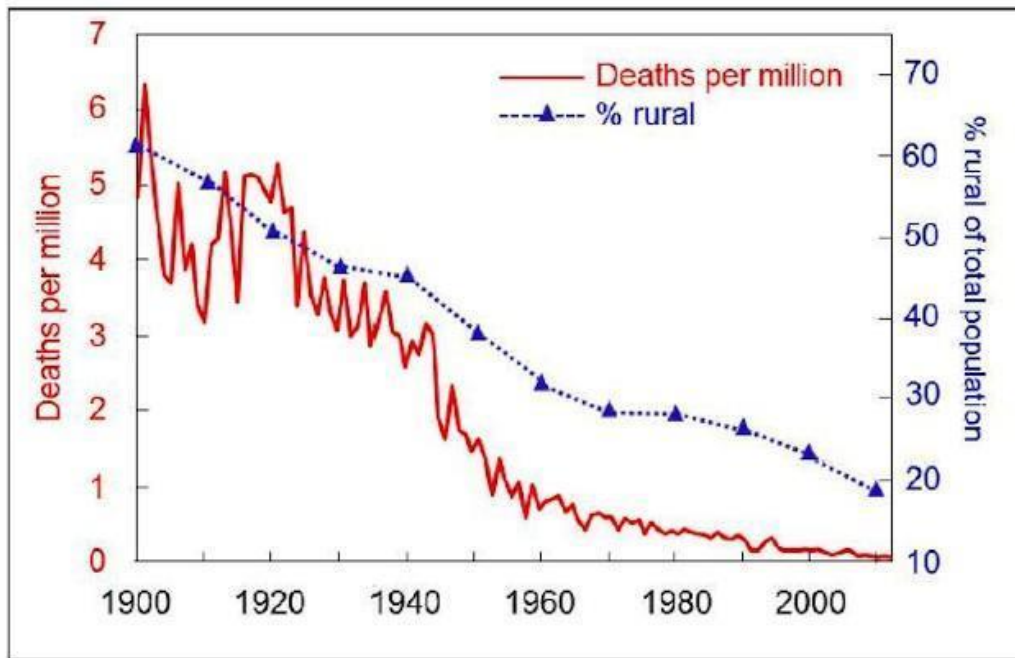


Figure 1: U.S. lightning fatalities in deaths per million since 1900. From Weather Underground. Credit: Ron Holle, updated from [López and Holle 1998](#).

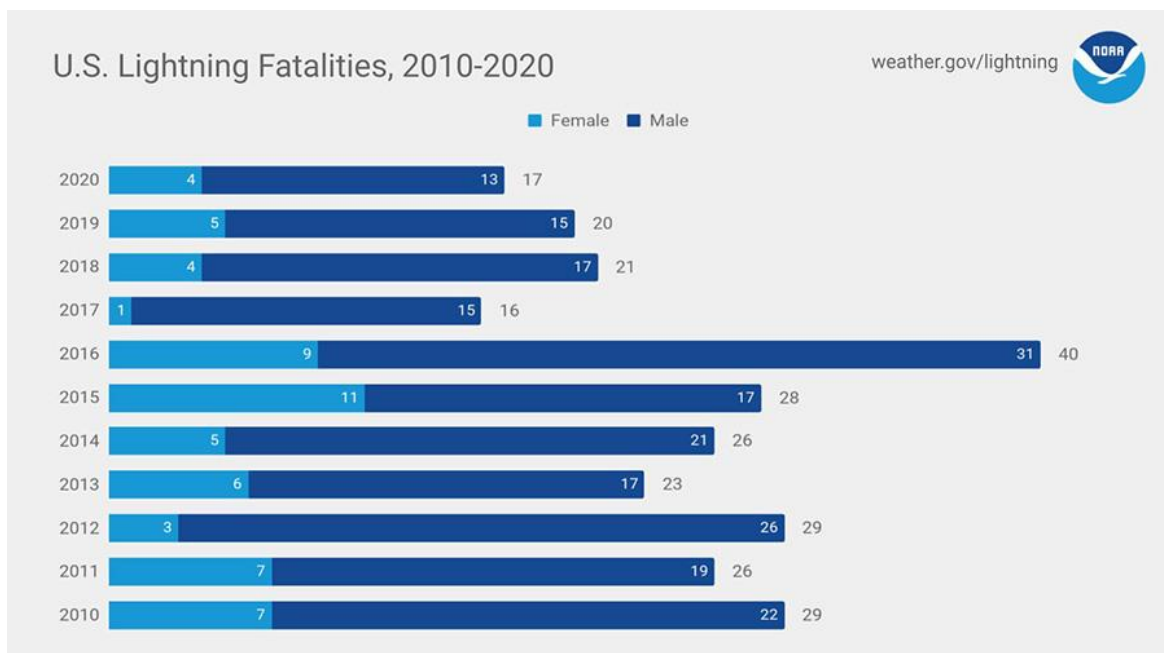


Figure 2: Annual Lightning Fatalities from 2010-2020.

Following the national trend of fewer lightning-related deaths in 2020 compared to previous years, no deaths directly related to lightning were recorded in South Florida, the first year since 2011 in which no lives were claimed due to lightning. A construction worker was injured by a lightning strike at a school in Lauderhill on August 4th, the only injury from a lightning strike reported in South Florida. In the entire state of Florida, a total of 3 deaths were reported which is below the average yearly number of lightning-related deaths.

Despite the positive, downward trend in lightning-related casualties, **it is always critical to be aware that lightning is a present, year-round danger in South Florida, particularly from afternoon thunderstorms during the summer months.** Lightning flash density data from 2020, as well as lightning fatalities from 2010 to 2019 continues the long-standing fact that Florida is the “lightning capital” of the United States (Figures 3 and 4). In an area so vulnerable to lightning such as South Florida, lightning safety needs to be a permanent part of our education and awareness efforts.

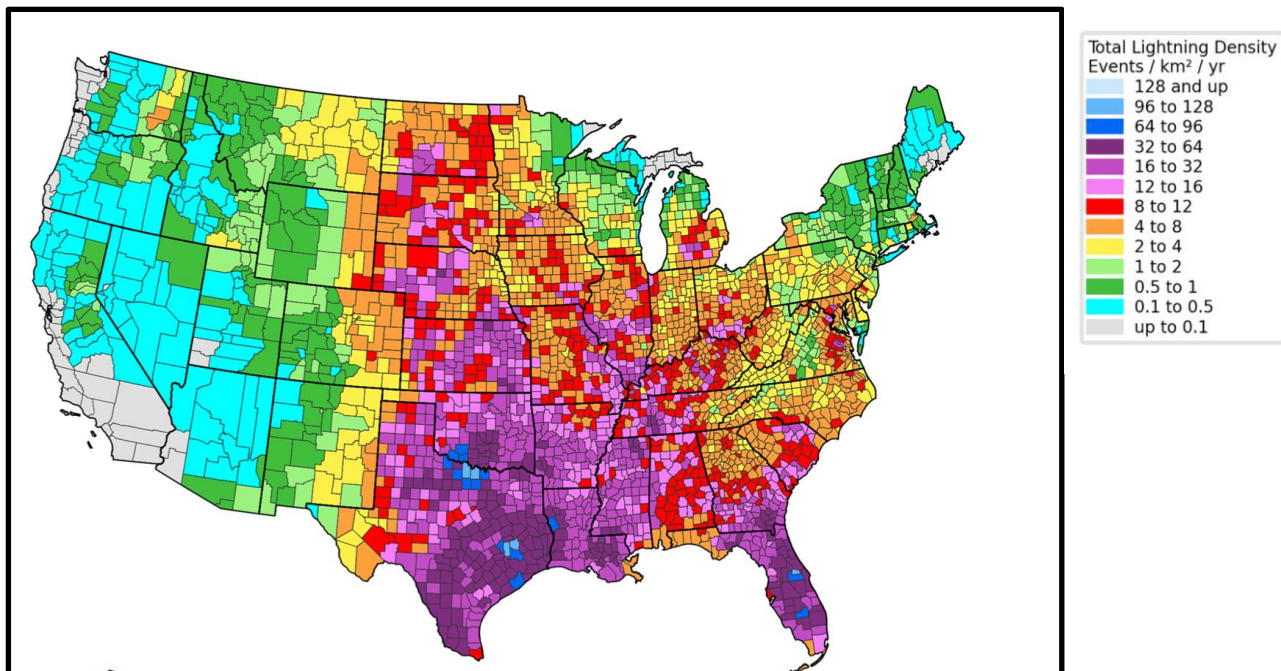
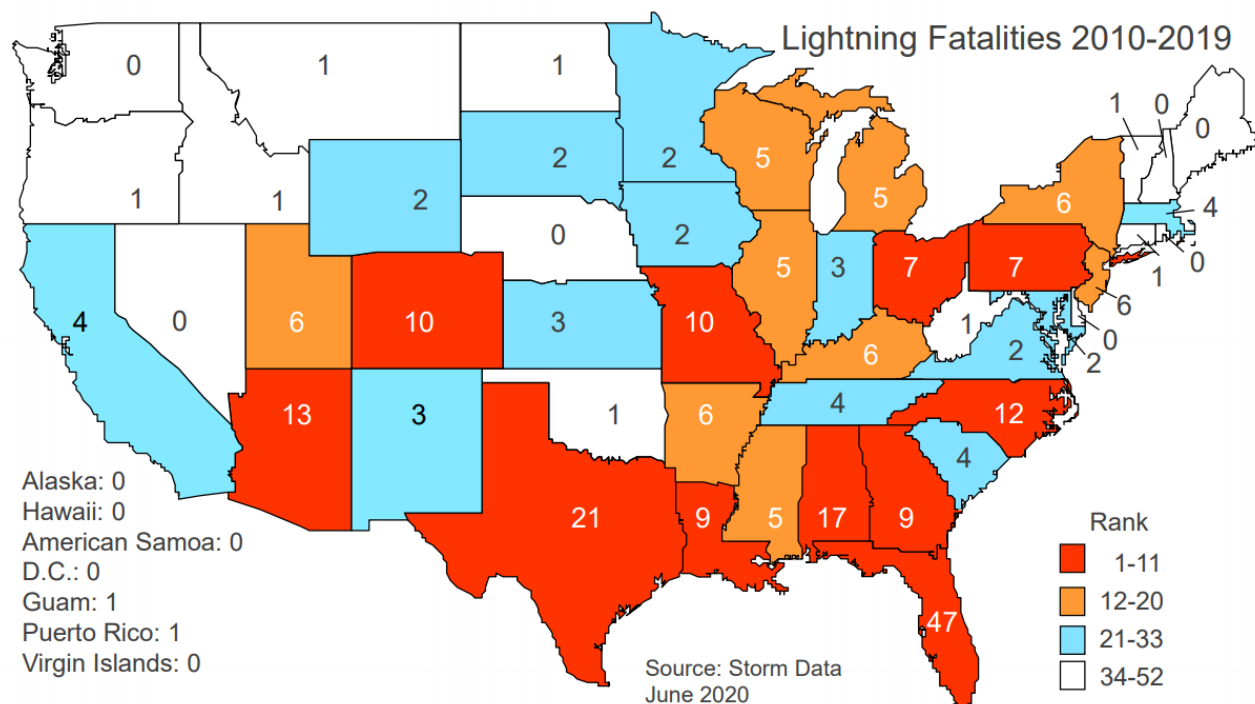


Figure 3: Average Total Lightning Density per county from April to June 2020, courtesy of [Vaisala Annual Lightning Report 2020](#).



VAISALA

6/19/2020 © Vaisala 1

Figure 4: Annual Lightning Fatalities by State from 2010-2019, courtesy of Vaisala.



Lightning safety is as important and simple as this rule: **when thunder roars, go indoors!** If you hear thunder then you are close enough to get struck by lightning. No place outside is safe from lightning! A metal-enclosed vehicle is a good alternative, however only if there are no enclosed buildings accessible nearby. The greatest number of people in Florida are struck by lightning while near or on a body of water. Many others are struck while standing and seeking protection from the elements under trees. Other vulnerable locations are open areas with few trees such as construction sites, farms, ball fields, playgrounds, and golf courses. School-related activities also rate high in lightning

vulnerability, These activities include walking to and from school and after-school events.

The large number of high-rise buildings and the current construction boom in South Florida also puts construction workers and even residents in upper floors at a greater risk since tall objects are struck by lightning much more frequently than objects close to the ground.

According to the NWS Storm Data, over the thirty (30) year period from 1989-2018, the United States averaged 43 *reported* lightning-caused deaths per year. Only about ten percent (10%) of people struck by lightning are killed, leaving ninety percent (90%) with various degrees of injury and in severe cases, disability. More recently, in the last ten (10) years (2010-2020), the United States has averaged 26 lightning fatalities which corresponds to the aforementioned fact that lightning fatalities and injuries have decreased significantly over the last several decades (Figure 1) .

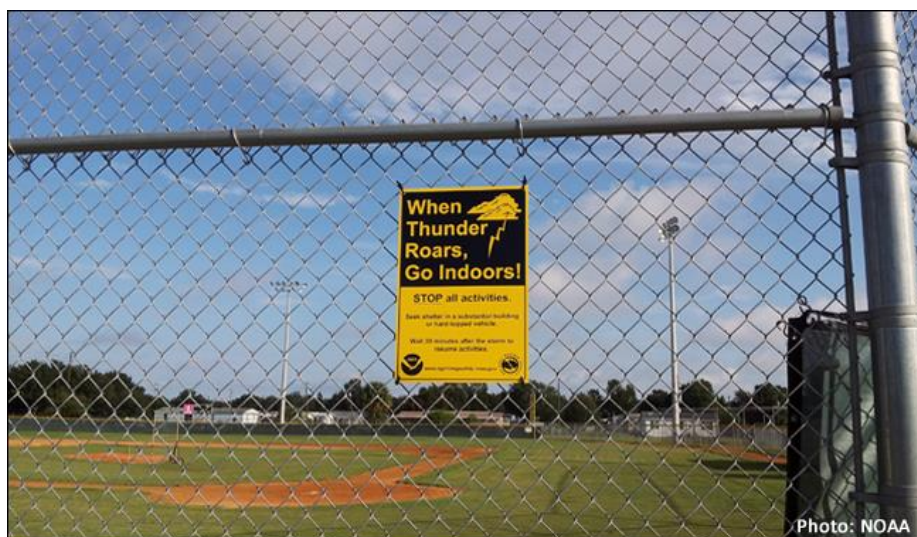
Odds of Becoming a Lightning Victim (based on averages for 2009-2018)				
Estimated U.S. population as of 2019				330,000,000
Average Number of Deaths Reported	27	Estimated number of Injuries	243	270
Odds of being struck in a given year (estimated total deaths + estimated injuries)				1/1,222,000
Odds of being struck in your lifetime (Est. 80 years)				1/15,300
Odds you will be affected by someone struck (10 people for every 1 struck)				1/1,530

Figure 5: Odds of Becoming a Lightning Victim.

DON'T JUST LOOK STRAIGHT UP

There are several myths about lightning that are important to dispel. One is that lightning only strikes when dark clouds are directly overhead and/or rain is falling. Several cases in the past few years have proven this to be false. Lightning can strike several miles away from the heavy rain area of the thunderstorm, and in some cases can strike up to 10 miles away or more! South Florida's only lightning-related death in 2019 is a classic example of this: an ordinary, fast-developing summer thunderstorm in which

the first reported strike occurred a few miles away from the main part of the storm. Unfortunately, this strike was the one which caused the death. This type of lightning is misleadingly referred to as “dry lightning” or “bolts from the blue”, but they actually originate from the side of a thunderstorm cloud and can be even deadlier than those in the middle of a heavy downpour. Therefore, the greatest danger often comes with the first or last flash because that’s when people least expect lightning to strike. Remember that good ole simple saying: **When Thunder Roars, Go Indoors**? Keep it in the back of your mind! This is why it is so important to head indoors as soon as the first clap of thunder is heard. Darkening clouds are usually the first sign that lightning may strike nearby. Wait in a safe indoor location until 30 minutes after the last boom of thunder is heard or the all-clear signal is given at parks, beaches, and other public locations.



BE INFORMED. BE PREPARED

If planning to be outdoors, stay informed of the latest weather conditions by listening to NOAA Weather Radio or by monitoring the latest forecasts via TV, radio, personal computers, and/or mobile devices. Have a safe indoor location planned and be prepared to take shelter inside an enclosed building if a thunderstorm approaches or forms nearby.

Although the National Weather Service does not issue specific lightning warnings, routine products such as the [Hazardous Weather Outlook](#) and the [Surf Forecast](#) describe the daily lightning danger in South Florida on a scale ranging from none, to slight, to moderate, to high. When a storm producing excessive lightning is observed or is imminent, a Special Weather Statement/Significant Weather Advisory is issued to alert

of its location. Checking these products before venturing outside can make the difference between life and death.

Remember, any thunderstorm can produce a lightning flash which can kill you and those nearby.

For further lightning information, as well as daily hazardous weather outlooks which indicate the threat of lightning over South Florida, as well as special weather statements, please visit the National Weather Service in Miami's website at www.weather.gov/southflorida.

For general lightning safety tips as well as educational material, please visit the National Weather Service lightning safety page at <https://www.weather.gov/safety/lightning>.